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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,360	09/11/2003	Fumiyoshi Ikkai	09354.0008-00	1839

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EXAMINER

BERMAN, SUSAN W

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,360

Applicant(s)

IKKAI, FUMIYOSHI

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The abbreviation "UV" should be replaced with "ultraviolet" because the abbreviation renders the claims indefinite. Claims 13-15 recite a method while claim 12, from which the claims depend, recites a synthetic polymer gel. Thus, it is not clear whether applicant intends to claim a gel or a method. With respect to claims 25, 26, 28 and 31, the phrase "chosen from pigments, fillers and nacre particles" should read "chosen from pigments, fillers or nacre particles" or "selected from the group consisting of pigments, fillers and nacre particles".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-24 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Cywar et al (6,262,141). Cywar et al disclose a method for preparing an acrylic polymer comprising preparing an aqueous solution of an acrylic monomer, a photoinitiator and a persulfate compound, thermally polymerizing the monomer and irradiating with UV light to reduce residual monomer by further polymerization. Gel particles are disclosed. Cywar et al also teach in the description of prior art that it is known to combine redox/azo system with a photopolymerization process (column 1, lines 7-24, and lines 55-61). See column 3, lines 7-25, column 4, lines 46-67, column 5, line 51, to column 6, line 26, column 7, lines 36-40, lines 63-66, column 8, lines 9-14, and the examples. The disclosure of Cywar et al anticipates the instant claims because an aqueous solution of the required monomers is formulated and irradiated with UV light. The comprising language in the instantly claimed method encompasses the thermal polymerization step taught by Cywar et al. The polymer gel produced would be expected to be the same, in the absence of evidence to the contrary.

Claims 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by RO 115805 B (Abstract). The product obtained by the method taught by RO '805 in the Abstract would be expected to be the same product as is instantly claimed because the same monomers are being polymerized in aqueous solution in the presence of a persulfate initiator. The difference in the method for producing the products taught by RO '805 is using gamma radiation or electron beams, while applicant claims using UV

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radiation. Since either kind of radiation would be expected to activate the persulfate initiator and the monomers being polymerized are the same, the products would be expected to be the same, in the absence of evidence to the contrary.

Claims 11-20, 29 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Matz et al (6,691,715). Matz et al teach conventional solution polymerization techniques to polymerize acrylic and/or acrylamide monomers in the presence of sodium persulfate to provide products for cosmetic use or for applications involving fillers (column 11, line 64, to column 12, line 50, and column 6, lines 55-64). Matz et al do not mention UV radiation. The products obtained by the thermal solution polymerization method taught by Matz et al would be expected to be the same as the products obtained by the instantly claimed method because the same monomers are being polymerized in aqueous medium in the presence of a persulfate initiator.

Claims 11-20, 24 and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Dobbs (5,380,520). Dobbs discloses a cosmetic film forming composition consisting of aqueous emulsion (A) and aqueous emulsion (B). See Example 3 for an emulsion B polymerized in the presence of ammonium persulfate. Fillers and colorants can be added. Dobbs does not mention UV radiation. The products obtained by the method of polymerization taught by Dobbs would be expected to be the same as the products obtained by the instantly claimed method because the same monomers are polymerized in aqueous emulsion in the presence of a persulfate initiator.

Claims 11-20 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Yada et al (4,604,411). Yada et al disclose a process for preparing sticky polymers from acrylic and/or acrylamide monomers (column 4, lines 15-52, column 5, lines 16-32, and the examples). Yada et al teach thermally

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activatable initiators such as persulfates for thermal polymerization and photoinitiators for photopolymerization. Yada et al do not teach photopolymerization in the presence of persulfate initiators. However, the gel polymers produced by the process disclosed by Yada et al would be expected to be the same as the gel polymers produced by the instantly claimed process, in the absence of evidence to the contrary. The reason is that Yada et al teach polymerizing the same kinds of monomers in aqueous solution by either thermal polymerization in the presence of a persulfate initiator or by photopolymerization.

Claims 11-20 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Yada et al (4,690,788). Yada et al disclose a process for preparing polymer gel particles from acrylic and/or acrylamide monomers (column 4, lines 3-64, and examples 1 and 4). Yada et al teach thermally activatable initiators such as persulfates for thermal polymerization and photoinitiators for photopolymerization. Yada et al do not teach photopolymerization in the presence of persulfate initiators. However, the gel polymers produced by the process disclosed by Yada et al would be expected to be the same as the gel polymers produced by the instantly claimed process, in the absence of evidence to the contrary. The reason is that Yada et al teach polymerizing the same kinds of monomers in aqueous solution by either thermal polymerization in the presence of a persulfate initiator or by photopolymerization.

Claims 11-22, 24 and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Itoh et al (5,519,088). Itoh et al disclose aqueous gels comprising a polymer of (meth)acrylamide, particulate metal oxide, and an aqueous medium. Water and miscible solvents are taught in column 6, photoinitiators in column 7 and persulfate initiators in column 8. Itoh et al teach that polymerization can be initiated by exposure to high energy rays, by using a polymerization initiator or by exposure to high energy rays in the

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presence of a polymerization initiator. Example 18 discloses a persulfate as thermal initiator. Itoh et al do not specifically teach photopolymerization in the presence of persulfate initiators. However, the gel polymers produced by the process disclosed by Itoh et al would be expected to be the same as the gel polymers produced by the instantly claimed process, in the absence of evidence to the contrary. The reason is that Itoh et al teach polymerizing the same kinds of monomers in aqueous solution by either thermal polymerization in the presence of a persulfate or by photopolymerization.

Claims 11-22, 24 and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Itoh et al (4,865,886). Itoh et al disclose aqueous gels comprising a polymer of (meth)acrylamide, a fibrous substrate, and an aqueous medium. Persulfate initiators are taught in column 6, lines 39-45. High energy radiation is taught in column 7, lines 6-8. Examples 1, 3 and 4 disclose potassium persulfate as thermal initiator. Example 6 disclose polymerization by exposure to electron beam. Itoh et al do not teach photopolymerization in the presence of persulfate initiators. However, the gel polymers produced by the process disclosed by Itoh et al would be expected to be the same as the gel polymers produced by the instantly claimed process, in the absence of evidence to the contrary. The reason is that Itoh et al teach polymerizing the same kinds of monomers in aqueous solution by either thermal polymerization in the presence of a persulfate or by photopolymerization.

Claims 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Abrahams (3,963,685). Abrahams discloses a hydrophilic water-insoluble, organic solvent soluble polymer prepared by polymerizing a hydroxyalkyl methacrylate in water. Abrahams teaches that a chemical initiator can be obviated by utilizing irradiation (column 2, lines 59-62). Abrahams also teaches that a free radical catalyst, such as potassium persulfate, can be used (column 2, lines 63-68). The polymers produced by the process disclosed by Abrahams would be expected to be the same as the polymers produced by the

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instantly claimed process, in the absence of evidence to the contrary. The reason is that Abrahams teaches polymerizing the same kinds of monomers in aqueous solution by either polymerization in the presence of a persulfate free radical initiator or by photopolymerization.

With respect to each of the rejections of product claims set forth above: The burden is hereby shifted to applicant to establish by effective argument and/or objective evidence that the prior art product(s) or process(es) do not necessarily possess the characteristics of the claimed products or processes. Note In re Spada, 911 F. 2d 705, 709, 15 UPQ2d 1655, 1658 (Fed. Cir. 1990), "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not". Note In re Marosi, 710 F 2d 799, 218 USPQ 289 (Fed. Cir. 1983) and In re Thorpe, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See MPEP 2113. The reference teaches a product that appears to be the same as the product set forth in the product by process claims, although produced by a different process.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 21, 23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al (5,519,088) in view of Cywar et al (6,262,141). The disclosure of Itoh et al is discussed above. Itoh et al teach that polymerization can be initiated by exposure to high energy rays, by using a polymerization initiator or by exposure to high energy rays in the presence of a polymerization initiator. Example 18 discloses a persulfate as thermal initiator. Polymer gel particles are separated from the

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dispersion by drying. Itoh et al do not specifically teach photopolymerization in the presence of persulfate initiators. Cywar et al disclose a method for preparing an acrylic polymer comprising preparing an aqueous solution of an acrylic monomer, a photoinitiator and a persulfate compound, thermally polymerizing the monomer and irradiating with UV light to reduce residual monomer by further polymerization. Cywar et al also teach in the description of prior art that it is known to combine redox/azo system with a photopolymerization process (column 1, lines 7-24, and lines 55-61).

It would have been obvious to one skilled in the art at the time of the invention to combine the redox system using a persulfate initiator and the photopolymerization system using UV light taught by Itoh et al, as suggested by Cywar et al in an analogous method for preparing analogous polymers. One of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of successfully providing a useful polymer gel, as taught by Itoh et al or Cywar et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

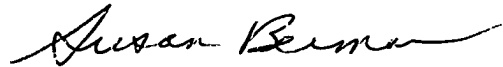
Kroner et al (5,587,404) disclose gels with thermotropic properties obtained by irradiation with high energy light of free radically polymerizable monomers in water and/or organic solvent or mixtures thereof.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan W Berman
Primary Examiner
Art Unit 1711

sb

March 21, 2005